

## Working with Tools and Tool Catalogs

### I-DEAS® Tutorials: Milling Projects and Turning Projects

In this tutorial, you'll create a tool catalog. Tool catalogs are containers for standard tools that are used site-wide. They allow you to share tools between model files and projects.

#### Learn how to:

- check milling tools into a tool catalog
- check drills into a tool catalog
- view the tool catalog
- get a tool from a tool catalog
- modify a catalog tool
- delete a catalog tool
- use filters to find catalog tools

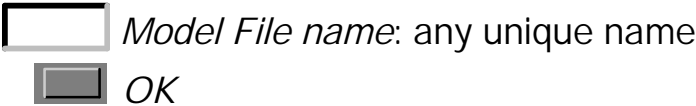
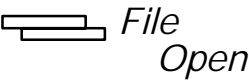
# Before you begin...

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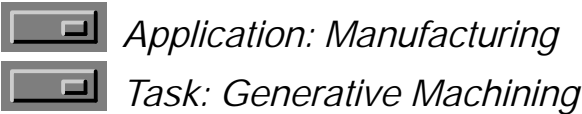
## Prerequisite tutorials:

- all tutorials under the Modeling Fundamentals menu
- Introduction to Generative Machining
- Building a Setup Assembly
- Generating In-process Stock and Checking Validity

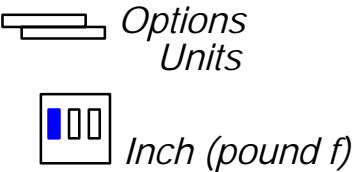
If you didn't start I-DEAS with a new (empty) model file, open a new one now and give it a unique name.



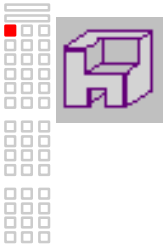
Make sure you're in the following application and task:



Set your units to inches.



Create a job. Before you can create the tools, you need to create a job.



NC Job Create form



## Recovery Point

 *File  
Save*

### Warning!

If you're prompted by I-DEAS to save your model file, respond:

 *No*

Save only when the tutorial instructions tell you to—not when I-DEAS prompts for a save.

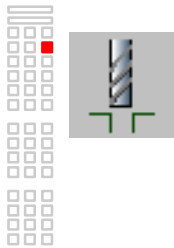
If you make a mistake at any time between saves and cannot recover, reopen your model file to the last save and start over from that point.

### Hint

To reopen your model file to the previous save, press Control-Z.

**What:** Create a volume clear operation. You can use a single volume clear operation to create all of your milling tools for the tool catalog. You will create two milling tools.

**How:**



Operation Selection form




Category: Milling



Type: Volume Clear



Create

 Don't close the Operation Specification form.

**What:** Create a 1" diameter end mill.

**How:**

Operation Specification form



Cutting Tool Specification—Mill form

Identifier: 1" End Mill

Use the Tab key to go to the next field.

I-DEAS Warning

OK

- Post Tool ID: 1
- Description: 1" diameter hss end mill
- Style: End Mill
- Holder to Tip Dist: 3
- Max Depth of Cut: 2
- Cutter Diameter: 1
- Nose Radius: 0

 Don't close the Cutting Tool Specification—Mill form.

**What:** Define the material of the tool.

**How:**

Cutting Tool Specification—Mill form



*Other Attributes...*



*Material: High Speed Steel*



*Dismiss*

 Don't close the Cutting Tool Specification—Mill form.



**What:** Check the tool into a catalog.

**How:**

Cutting Tool Specification—Mill form



Cutting Tool Check-In form



Press the Tab key to move to the next field.

I-DEAS Warning



I-DEAS Warning



Things to notice

Notice that Catalog Tool appears on the Cutting Tool Specification—Mill form to the right of Post Tool ID.

 Don't close the Cutting Tool Specification—Mill form.

**What:** Create a 1/2" diameter ball mill.

**How:**

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Cutting Tool Specification—Mill form



Identifier: 1/2" Ball Mill

Use the Tab key to go to the next field.

---


I-DEAS Warning



OK



Post Tool ID: 4



Description: 1/2" diameter coated  
carbide ball mill



Style: Ball Mill



Cutter Diameter: 0.5



Don't close the Cutting Tool Specification—Mill form.

**What:** Define the material of the tool.

**How:**

Cutting Tool Specification—Mill form

 *Other Attributes...*

 *Material: Carbide-Coated*

 *Dismiss*

 Don't close the Cutting Tool Specification—Mill form.

**What:** Define the tool's feeds and speeds. You will use the operation's feeds and speeds.

**How:**

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## Mill Tool Feeds and Speeds form



## Things to notice

The feeds and speeds that are defined on the Machining Parameters: Feeds and Speeds form are copied to the tool's Feeds and Speeds form. When the tool is checked in to a catalog, the feeds and speeds are stored with the tool.



*Dismiss*

---

 Don't close the Cutting Tool Specification—Mill form.

**What:** Check the tool into the catalog.

**How:**

Cutting Tool Specification—Mill form

 *Check In...*

Cutting Tool Check-In form

 *OK*

 *OK*

Operation Specification form

 *Dismiss*

**Recovery Point**

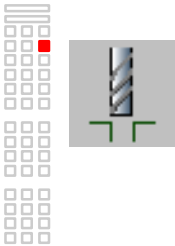
 *File  
Save*

When adding hole-making tools to a catalog, you should create an operation for each type of tool. For example, you should create a drill operation for all of your drills, a tapping operation for taps, and a plunge mill operation for plunge mills.


In this tutorial, you will only create a drill operation, but in practice you would need to create several different operations to build a robust tool catalog.


**What:** Create and check drills into a tool catalog.


**How:**




Operation Selection form

 *Category: Hole Making*

 *Type: Drill*

 *Create*

 Don't close the Operation Specification form.

**What:** Create a 1/8" diameter center drill.

**How:**

Operation Specification form



Cutting Tool Specification—Drill form

Identifier: 1/8" Center Drill

Use the Tab key to go to the next field.

I-DEAS Warning

OK

Post Tool ID: 8

Description: 1/8" diameter hss center drill

Holder Diameter: 1.5

Shank Diameter: 1

Holder to Tip Dist: 8

Max Depth of Cut: 2

Cutter Diameter: 0.125

 Don't close the Cutting Tool Specification—Drill form.

**What:** Define the material of the drill.

**How:**

Cutting Tool Specification—Drill form



*Other Attributes...*



*Material: High Speed Steel*



*Dismiss*



Don't close the Cutting Tool Specification—Drill form.



**What:** Check the center drill into the catalog.

**How:**

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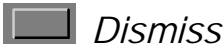
Cutting Tool Specification—Drill form



Cutting Tool Check-In form



Operation Specification form

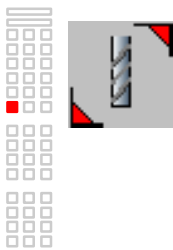


**Recovery Point**







**What:** View the catalog tools that you created.

**How:**



Manage Tools form

-  *Set Context  
Default Project*
-  mycatalog
-  *Set Context  
Selected Items*
-  *Selected Types*

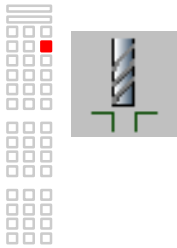
Things to notice

The three tools that you created are listed in the catalog: 1" End Mill, 1/2" Ball Mill, and 1/8" Center Drill.


 *OK*


**What:** Create a volume clear operation using a milling tool from the catalog you created.


**How:**




Operation Selection form

 *Category: Milling*

 *Type: Volume Clear*

 *Create*

 Don't close the Operation Specification form.

**What:** Get the 1" diameter end mill tool you created from the catalog. The software copies the tool to your model file..

**How:**

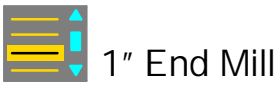
Operation Specification form



Cutting Tool Specification—Mill form



Item Selection form



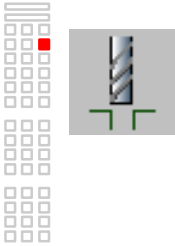
Things to notice

Because you are creating a milling operation, only the milling tools are listed. Catalog Tool appears on the Cutting Tool Specification—Mill form to the right of Post Tool ID.





**What:** Create another volume clear operation using the same catalog tool.


**How:**




Operation Selection form

 *Category: Milling*

 *Type: Volume Clear*

 *Create*

 Don't close the Operation Specification form.

**What:** Modify the 1" End Mill catalog tool by changing the Holder to Tip Distance from 3" to 2.5".

**How:**

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## Operation Specification form



## Cutting Tool Specification—Mill form



*Holder to Tip Dist: 2.5*



*OK*

---

## I-DEAS Warning



*OK*

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## Things to notice

When you modify a tool, all operations in the model file that use that tool are updated to use the modified tool.



Don't close the Cutting Tool Specification—Mill form.

**What:** Check a new version of the tool into the catalog.

**How:**

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## Cutting Tool Specification—Mill form




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## Cutting Tool Check-In form




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## I-DEAS Warning



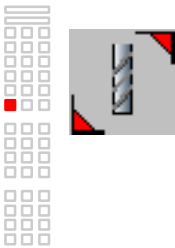
## Things to notice

A new version of the tool is created and placed in the catalog.



**What:** Try deleting a tool from the model file.

**How:**



Manage Tools form



*Set Context*  
*Current Model File*



1" End Mill



*Actions*  
*Delete*

Delete form



*OK*



**Check I-DEAS List.**

The tool was not deleted because it is a model file tool. When you set Set Context to Current Model File, the tools listed are model file tools, not catalog tools. Remember, when you use a catalog tool, the software creates a copy of the tool in the model file.





Don't close the Manage Tools form.





**What:** Delete the tool from the tool catalog.


**How:**


 *Set Context*  
*Default Project*

 mycatalog

 *Set Context*  
*Selected Items*


 *Selected Types*

 1" End Mill (version 1)

 *Actions*  
*Delete*

Delete form

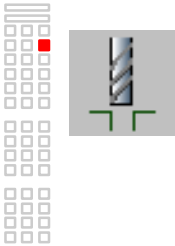
 *OK*

 **Check I-DEAS List.**  
The tool was deleted from the catalog.


 *OK*


**What:** Create another volume clear operation. Then Search for the tool in a catalog by using the tool's attributes.


**How:**




Operation Selection form

 *Category: Milling*

 *Type: Volume Clear*

 *Create*

 Don't close the Operation Specification form.

**What:** Display the contents of the tool catalog, then get the tool.

**How:**

---

Operation Specification form



Cutting Tool Specification—Mill form



Item Selection form




Project Selection form



Item Selection form



 Don't close the Item Selection form.

**What:** Display only the tools with diameters greater than 0.5".

**How:**

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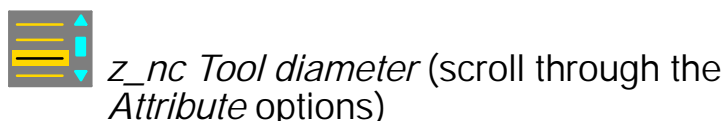
### Item Selection form



### Filter form



### Attribute Selection form




&gt;



### Things to notice

The attribute *z\_nc Tool diameter* appears in the field under the table. Also, the software displays only one milling tool on the *Item Selection* form.

 Don't close the *Item Selection* form.

**What:** Get the 1" diameter end mill from the catalog.

**How:**

Item Selection form



1" dia End Mill



OK

Cutting Tool Specification—Mill form



OK

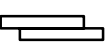
Operation Specification



Dismiss

Once you retrieve a tool from a catalog, the software remembers which catalog you were working in and automatically opens that catalog each time you pick *Find*. If you've left the session, you'll need to find the catalog again.

**Recovery Point**



File

Save

# Tutorial wrap-up

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You've completed the Working with Tools and Tool Catalogs tutorial.